United Nations ECE/CES/2018/28

Economic and Social Council

Distr.: General
9 April 2018

Original: English

Economic Commission for Europe

Conference of European Statisticians
Sixty-sixth plenary session
Geneva, 18–20 June 2018
Item 3 (b) of the provisional agenda
Measuring what matters - broadening official statistics:
Session 2: How to react swiftly

Dare to change in a changing society

Note by Statistics Netherlands

Summary

In 2015, Statistics Netherlands (CBS) embarked on a course of increased interaction with society to stay relevant and maximise the reach and impact of its work. First, CBS introduced a new way of disseminating output to improve its visibility and enhance fact-based decision making. Second, strong emphasis was put on innovation with a sound strategy and the introduction in 2016 of the CBS Centre for Big Data Statistics. The Center experiments with the use of new, private data which has led to a large number of innovative official statistics. This process is supported by research addressing the validation, data quality and methodological challenges in moving from an experimental product to official statistics. Third, since many policy tasks have shifted from national government institutions to municipalities, CBS has set up Urban Data Centres helping local and regional authorities to address these new information needs. Fourth, CBS has become a knowledge institute that contributes to the training of a future workforce of data scientists.

Providing relevant information to society requires multi-organisational collaboration and a more entrepreneurial approach. Accordingly, there arises a need for changes in the way information is generated, how products are funded and new business models generated, and how results are presented and distributed. This paper addresses several choices CBS has made on these topics and shares experiences and lessons learned. The document is presented to the Conference of European Statisticians' seminar on "Measuring what matters – broadening official statistics", Session 2 "How to react swiftly" for discussion.

GE.18-05542(E)

1805542

Please recycle

I. Introduction: the challenges of Statistics Netherlands

1. At Statistics Netherlands (CBS), we serve to inform policy and decision makers as well as researchers, entrepreneurs and the general public on societal relevant phenomena. To stand out from other information providers, we use a multiple indicator approach to generate coherent and complete insights. By law, it is our task to provide statistics, but also to promote the use of statistics at all levels of government. CBS has a long tradition in collecting and processing a huge variety of data sets and in data integration in order to compile and publish independent, high-quality statistics while observing privacy and security aspects.

2. Society itself is now changing rapidly, leading to drastic changes in both availability of data and information needs. Many human interactions generate data and a growing number of devices and sensors produce huge amounts of data. There are technical possibilities and a societal desire to process, combine and use these data leading to innumerable applications. Policy makers have a strong ambition to underpin new policy measures with timely and relevant data. On the other hand, tension in society between the potential benefits of data usage versus preserving individual privacy seems to be growing.

3. We also see that, in the Netherlands, more and more policy tasks are being delegated to municipalities, leading to new and specific needs for information by a growing number of policy makers. At regional level as well, a faster life cycle of policy measures is used. All this leads to increased demand for high quality, detailed, timely and transparent information, to be used not only by policy makers, but also by researchers and the public in general.

4. Moreover, statistical institutes are facing a decreasing willingness to participate in surveys, suffer from budget cuts and are challenged by companies claiming to deliver the information needed for policy making. Finally, the administrative data we have access to by law does not always contain the level of detail or timeliness that is needed. It is a safe conclusion that these developments have and will have a major impact on the way we collect, analyse and disseminate our statistical products and possibly even on our role in society.

II. How to deal with them? Our strategy

5. More indicators and hence more data are needed to describe societal phenomena to their full extent. We experience a data gap that needs to be addressed before we are able to fully support evidence-based policy making. Since 2015, CBS has set a different course in order to stay relevant and maximise the impact of its work. From innovating in an incremental way, we changed to implementing a number of 'disruptive' changes. We see that providing relevant information to society requires more and more multi-organisational collaboration, data access, strong leadership and a more entrepreneurial approach.

- In our newsroom, a new way of disseminating output was implemented to improve our visibility and to enhance fact-based decision making by producing statistics that focus on societal phenomena.
- To address the growing demand for information among municipalities, we made ourselves relevant at lower regional levels in so-called Urban Data Centres.
- Extreme focus was put on three innovation programmes. With these programmes, Statistics Netherlands has the ambition to become a Centre of Excellence. This has resulted in the introduction of a CBS Centre for Big Data Statistics in 2016. At the CBDS, together with our partners, we use new data sources and produce new, fast

and detailed indicators leading to innovative, experimental products. Innovation is partly financed with commissioned work and a focus on grant applications. For that, we started a grant development office.

- The other two innovation programmes are being launched this year. To fill the aforementioned data gap, the programme Advanced Data Collection serves to obtain access to all sources relevant for our purposes, mostly data owned by the private sector. New indicators can be developed, lessening our dependence on surveys and thus largely reducing the administrative burden on society. In our programme Information Dialogue, we aim to improve the accessibility of our statistical information, with as the ultimate goal a natural language speech-controlled interface providing real-time information (a statistical "SIRI").
- CBS has become a knowledge institute that contributes to training a future workforce of data scientists throughout the Dutch government. In September 2018, CBS will organise a government- wide data traineeship in collaboration with the Ministry of the Interior and Kingdom Relations where newly recruited data scientists receive a one-year training at CBS before taking up work at the organisation that recruited them.

III. A deeper dive

6. In response to the above developments, we see changes in the way information is generated, products are funded, new business models are generated and how results are presented and distributed. Below, you will find a brief description of the CBS newsroom, the Urban Data Centres and the CBS Centre for Big Data Statistics.

A. The CBS dissemination process: our newsroom

7. At CBS, not only do we want to produce statistics, but we also want to make sure that they can be used by society. Therefore, actual questions within society must be answered in a way users can understand. Mere figures, data and isolated indicators are in many cases insufficient to provide the complete answer people want. The public needs descriptions of complex phenomena behind the statistics.

8. We have organised our dissemination process like at news media companies, with a central news desk, editorial staff and editors. We have also created two main dissemination channels: one direct and one indirect. The direct channel are our 'owned media', such as our own open data platform and interface Statline, our website, our social media accounts and printed matter. The indirect channel are the 'earned media': Dutch news organisations including both printed and broadcast media, who bring our most recent statistics and stories to the public on a daily basis. In our newsroom, we have a state-of-the-art radio and TV studio with live audiovisual uplink to the Dutch TV industry. This studio is also used for live broadcasts by our trained spokespersons. Staff is trained to produce content as they like and to maintain relationships with journalists in direct cooperation with news organisations. Online content is managed and Twitter feeds are kept up to date.

9. We deliver a large (non-delicate) part of our publications to the media up to 24 hours before scheduled release time, so they can prepare in-depth reports. We also set most of our publication times at midnight (start of the day) so all media can begin publishing the news simultaneously in the early morning, thus reaching the greatest impact.

B. Urban Data Centres

10. One of the biggest risks of having each municipality serve/fulfil its own information requirements is that it encourages a wide variety of definitions, approaches, methodologies and visualisations. We anticipated a situation in which individual cities or municipalities are unable to compare indicators and information cannot be aggregated at national level. Since reversing such a situation would be extremely difficult, CBS launched the Urban Data Centre concept. Under this concept, a regional representation of CBS is established locally at the municipal headquarters. Local policymakers and CBS employees work together at this Urban Data Centre to address that city's specific information needs. Since most data required by cities is already available or can be made available at low cost by CBS, local authorities save money while achieving better results while CBS will cover the costs of these Data Centres. Results and methods used are shared within the community of Urban Data Centres. Also in 2016, we partnered with the World Council on City Data (WCCD), where an ISO standard is being implemented for the certification of individual cities based on specific indicators. At the moment, 11 different Data Centres are already in place across the Netherlands: 8 Urban Data Centres, a Rural Data Centre (formed by a number of smaller municipalities), a Data Centre at Provincial level in the Province of Limburg, a Departmental Data Centre at the Ministry of Economic Affairs and an Academic Data Centre at the University of Groningen. CBS also helps cities with information insights for their most important policy questions and advises how resources can be allocated.

C. CBS Centre for Big Data Statistics

11. The mission of the Centre for Big Data Statistics (CBDS) is to implement big data sources in official statistics.[1] We are in a unique position because of our ability to integrate these big data sources into the wealth of survey and administrative data which CBS - and only CBS - already has available. This position turns us into the government datahub of the Netherlands. At the same time, we are taking our responsibility for all issues of privacy and security related to big data. The mission statement of the CBS Centre for Big Data Statistics reads:

The CBDS explores and exploits new data sources, applying state-of-the-art methodology in collaboration with partners, in order to provide timely, comprehensive information on social phenomena relevant to users.

12. At the CBDS, we improve the timeliness of statistics, create new statistics and improve on existing statistics (e.g. higher spatial resolution, higher frequency or additional breakdowns) while lowering the administrative burden on society.

13. Results are published frequently on www.cbs.nl/innovation, where we also solicit active feedback from the public. These beta products are not official statistics but they do go beyond experiments. They are proofs of concepts in which new sources are investigated for their quality and we demonstrate their applicability to specific social issues. In addition, new visualisations are developed and new insights are presented. The beta products are transferred to internal production by other CBS departments, provided the quality is sufficient and there is permanent demand. Focus topics include energy transition, air

[1] We do not use a formal definition for big data in this context. This is a moving target and quite a variety of definitions exists. Basically, we mean generated data that are not collected for statistical purposes in the first place (like surveys and censuses), but for another purpose. Examples are sensor data, transaction data, social media and website data, administrative data, internet of things, …, and more

quality, mobility and health. We also work on economic indicators, housing market, safety, labour market, Sustainable Development Goals (SDGs) and smart cities. Furthermore, CBDS directs efforts towards conditional and methodological issues. New methods such as machine learning, text mining or AI need to be developed that can help extract relevant statistical information from generated data sources. New methods are also needed for the integration of heterogeneous and sometimes volatile data sources, since the value of the CBDS lies particularly in this combination. Other topics we are looking at include data access, data integrity, ethics and privacy.

14. At the CBDS, we actively work together with over 40 partners, both in the Netherlands and abroad: universities and research organisations, NSIs and government institutions and the private sector. Within these partnerships, new insights and products can be realised in new business models; we can share this knowledge, data and infrastructure to create value and improve the strength of both organisations. Because more data will be shared between organisations, much attention is being paid to developing privacy-preserved data sharing (PPDS) techniques and the ethical and legal framework that must accompany this. We also believe that awareness must increase among Dutch citizens on the possible societal benefits and how their privacy is being safeguarded.

IV. Concluding remarks and lessons learned

15. In order to stay societally relevant in the future, we need genuine and rapid change. Traditional methods and practices are losing ground and new ones are needed. Over the past few years, we have learned several valuable lessons in acting on these lines. As our concluding remarks, we would like to share some of these lessons, in random order:

- Join forces. Ecosystems and (temporal) coalitions and consortia are the future. Due to budget cuts, the fast pace of technological changes and growing accessibility of data sources, co-creation is needed and no single organisation will be able to act merely on its own. Conceiving such collaborations is not always easy. It calls for a tailor-made approach in which the common goals of both organisations should be addressed. This is especially true for consortia with companies, where business cases are often the main driver.

- Dialogue. A lot of effort needs to be put into fostering dialogue with policy makers. At CBS, we do not always know exactly which questions they have, and in turn policy makers are not always aware of all the possibilities CBS innovations could offer. Filling these gaps requires close cooperation. At the same time, a dialogue is needed within CBS, since change rarely comes without resistance.

- Need for data. Access to data remains a difficult issue. Last year, we have gained access to (private) data on housing market, navigation systems, mobile phone data, datasets on the energy transition and audience ratings. We also used open data including social media content, sources on cybersecurity and earth observation data. To fulfil our ambitions, we need access to more sources. New legislation is underway for this at the national level and we are participating in new EU legislation as well.

- Focus. We did this by setting up new departments which are detached from the existing organisation chart. Next to that, the CBDS acts like an entrepreneurial startup within an organisation, and has the freedom to explore the roles, agile processes and IT that are needed for its success. The CBDS is connected with the rest of CBS and with third parties via flexible, multi-disciplinary project teams.

- Manage expectations. Understanding the context of the source, exploring, cleaning and learning its applicability are difficult and time-consuming tasks. We need to explain to our environment that these steps take time and that retrieving transparent, objective insights out of generated data sources is not trivial.
- Act. We have shifted from thinking whether something is possible to how it can be made possible. This goes for facing the data deluge, developing relevant methodology, occupying a position at lower regional level and increasing our presence in society.
- Commitment. To start acting, strong commitment from the top management is a requisite. Next to that, we at CBDS have learned that commitment from business owners to our content is needed as early in the process as possible.
- Self-confidence. As a statistical agency with access to a wealth of administrative data and clear ambitions, we are an attractive organisation to collaborate with. Shortly after introducing the Urban Data Centres and the CBDS, we stopped looking for new partners, because they came looking for us. This has boosted our confidence.
- Big goals, small steps. In experimental projects in general and in gaining experience in partnerships with third parties, small steps are best. Fail cheap and fail fast, build on successes. Partnerships will only be kicked off if a tangible (small) project can be identified. Mere intentions do not lead to results.

Bibliography

B. Braaksma, B.Kroese, M. Vucsan, Modernisation at Statistics Netherlands: A strategic agenda, 2016

www.cbs.nl/Innovation